

Bobbitt Silt Loam 82-ID-0559 (82ID-009-4)

Classification: loamy-skeletal, mixed, mesic Ultic Argixerolls.

General Site Characteristics

Location: Benewah County, Idaho; 750 feet S. & 2380 feet W. of NE corner sec.
25, T. 46N., R. 2W.; approx. 1.5 miles ESE of St. Maries, Idaho.

Forest:

Area: Wolf Draw

Described By/Date: Soil Conservation Service personnel on April 7, 1982

Parent Rock/Material: loess over basalt

Habitat Type: Douglass fir/snowberry; Douglass fir, ponderosa pine, snowberry, Idaho
fescue, strawberry.

Topography: very steep

Landform: canyon slope (escarpment)

Weathering:

Formation Name:

Slope: 55 percent

Aspect: west

Elevation: 2680 feet

Soil Depth:

Eff. Rooting Depth:

Litter Type:

Surface Rock:

Climate: mesic

Precipitation:

Erosion: slight

Infiltration:

Permeability:

Storage:

Drainage: well

Air Temp:

Soil Temp at 20 inches:

Salt/Alkal:

Remarks: Slumping of soil is evident.

Pedon Description

Oi 5-3 cm. Needles, twigs, leaves, cones, moss (Mt. St. Helen's ash mixed in).

De 3-0 cm. Decomposed organic matter.

A1 8-8 cm. Brown (7.5YR 5/2) silt loam, dark brown (7.5YR 3/2) moist; moderate
very fine and fine granular structure; slightly hard, friable, slightly sticky and slightly
plastic; slightly acid pH 6.2; many very fine, common fine and medium, few coarse roots;
many very fine and fine tubular pores; no gravels by weight; clear wavy boundary.

A2 8-31 cm. Brown (7.5YR 5/2) silt loam, dark brown (7.5YR 3/2) moist; weak fine and medium subangular blocky structure parting to moderate very fine and fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; moderately acid pH 5.9; common very fine, fine, medium, and coarse roots; common very fine and fine, few medium tubular pores; no gravels by weight; clear wavy boundary.

Bt1 31-48 cm. Brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; moderate medium and coarse subangular blocky structure; hard, firm, sticky and plastic; moderately acid pH 5.8; common very fine, fine, medium, and few coarse roots; common very fine and fine, few medium tubular pores; 23 percent gravels by weight; common moderately thick clay films lining ped faces and pores; clear wavy boundary.

Bt2 48-81 cm. Pale brown (10YR 6/3) gravelly loam, brown to dark brown (10YR 4/3) moist; moderate medium and coarse subangular blocky structure; hard, firm, sticky and plastic; moderately acid pH 5.8; common very fine, fine, and medium roots; common very fine, few fine and medium tubular pores; 35 percent gravels by weight; common moderately thick clay films lining ped faces and pores; abrupt irregular boundary.

R 81+ cm. Hard fractured basalt.

Pedon: Bobbitt Silt Loam 82-ID-0559 (82ID-009-4)

Date: June 1984

| Sample No. | Horizon | Depth | pH paste | EC $\times 10^3$ | Z Water at Saturation | Available P | Sesquioxides | | | | Spodic |
|------------|---------|-------|----------|------------------|-----------------------|-------------|---------------|------------|------------------|------------|--------|
| | | | | | | | Di-Citrate Fe | Extract Al | Pyrophosphate Fe | Extract Al | |
| | | | | | | | Z | | | | |
| | | cm | mmhos/cm | | ppm | | | | | | |
| 1 | Oi | 5- 3 | NS | NS | NS | NS | | | | | |
| | Oe | 3- 0 | NS | NS | NS | NS | | | | | |
| | A1 | 0- 6 | 6.2 | 1.20 | 56 | 17.4 | | | | | |
| | A2 | 8-31 | 5.9 | 0.42 | 46 | 14.4 | | | | | |
| | Bt1 | 31-48 | 5.8 | 0.29 | 44 | 9.6 | | | | | |
| | Bt2 | 48-81 | 5.8 | 0.30 | 40 | 3.0 | | | | | |
| 4 | R | 81+ | NS | NS | NS | NS | | | | | |

| Sample No. | Exchangeable Ions | | | | Ext. Acidity | CLC | Base | OM | OC | N | C:N | Soil | NaF pH |
|---------------|-------------------|-----|-----|-----|--------------|------------|------|------|------|-------|----------|------|--------|
| | Ca | Mg | Na | K | H | Saturation | | | | | Fraction | | |
| | meq/100 gms | | | | | Z | Z | | | ratio | | | |
| | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| 1 | 27.5 | 4.8 | 0.5 | 2.0 | 10.4 | 35.4 | 77 | 6.85 | 3.98 | 0.163 | 24 | 1.00 | 8.8 |
| 2 | 22.0 | 5.3 | 0.6 | 1.4 | 12.6 | 32.8 | 70 | 2.56 | 1.48 | 0.087 | 17 | 1.00 | 8.6 |
| 3 | 22.0 | 6.3 | 0.7 | 1.1 | 11.4 | 34.5 | 73 | 1.59 | 0.92 | 0.056 | 16 | 0.77 | 8.4 |
| 4 | 26.1 | 7.0 | 0.6 | 0.8 | 11.2 | 35.5 | 75 | 1.16 | 0.67 | 0.037 | 18 | 0.65 | 8.3 |
| | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |

Remarks: CEC's were leached with 10% NaCl.
CEC's and nitrogens were run by steam distillation.
Extractable cations were run on the Jarrel Ash atomic absorption.
NS - no sample

Analysis by: Debbie Eisinger

Pedon: Bobbitt Silt Loam 82-ID-0559 (82ID-009-4)

Date: May 1984

| Depth | Particle Size Distribution (mm) | | | | | | | Gravel & Stone | | | Textural Classes |
|-------|---------------------------------|-------|----------|----------|----------|--------|------------|----------------|-------|------|-------------------------|
| | VCS | CS | MS | FS | VFS | TS | TSi | TC | >2 mm | | |
| | 2-1.0 | 1-0.5 | 0.5-0.25 | 0.25-0.1 | 0.1-0.05 | 2-0.05 | 0.05-0.002 | <0.002 | wt. | vol. | |
| cm | % | | | | | | | % | | | |
| 5- 3 | NS | NS | NS | NS | NS | NS | NS | NS | NS | | NS |
| 3- 0 | NS | NS | NS | NS | NS | NS | NS | NS | NS | | NS |
| 0- 8 | 3.30 | 2.85 | 2.46 | 5.95 | 9.34 | 23.91 | 53.52 | 22.57 | none | | Silt loam |
| 8-31 | 2.64 | 3.55 | 3.22 | 7.26 | 10.27 | 26.94 | 50.15 | 22.91 | none | | Silt loam |
| 31-48 | 1.95 | 3.39 | 3.30 | 8.16 | 10.21 | 27.00 | 46.08 | 26.92 | 23 | | Loam |
| 48-81 | 3.75 | 6.21 | 5.34 | 12.67 | 12.05 | 40.02 | 38.41 | 21.56 | 35 | | Gravelly loam |
| 81+ | NS | NS | NS | NS | NS | NS | NS | NS | NS | | NS |

| Depth | Silt Size Distribution (mm) | | | Water Content | | Liquid | Plastic | Plastic |
|-------|-----------------------------|------------|-------------|---------------|------|--------|---------|---------|
| | CoSi | Msi | Fsi | Bulk Density | | Limit | Limit | Index |
| | 0.05-0.02 | 0.02-0.005 | 0.005-0.002 | Clod | Core | Bar | Bar | |
| cm | % | | | g/cc | | % | | % |

| | | |
|-------|------|------|
| 5- 3 | NS | NS |
| 3- 0 | NS | NS |
| 0- 8 | 42.6 | 29.7 |
| 8-31 | 35.6 | 25.5 |
| 31-48 | 32.4 | 25.5 |
| 48-81 | 33.0 | 25.0 |
| 81+ | NS | NS |

Remarks: Samples were run by the centrifuge method, 5% sodium hexametaphosphate added, sonified, and carbonates were not removed.
NS - no sample

Analysis by: Anita L. Falen